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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/815,690 | 04/02/2004 | Mitsutoshi Fujita | 69804-015 | 9744 |

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EXAMINER

EVERHART, CARIDAD

ART UNIT PAPER NUMBER

2891

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/815,690

Applicant(s)

FUJITA ET AL.

Examiner

Caridad M. Everhart

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Withdrawal of Finality

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Withdrawal of Indication of Allowability

The indicated allowability of claims is withdrawn in view of the newly discovered reference(s) to Tomita. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong (US 6,886,152B1) in view of Tomita (US 5,687,088).

Kong discloses applying a branching penalty(col. 5,lines 11-14). In order to assign a branching penalty, there would be required to have information regarding the types of cells and their arrangement and wiring, as the loads and delays would be required in the calculation of the delays(col. 3,lines 48-55). An algorithm calculates if a better result is obtained with a different arrangement(col. 4,lines 38-43). This would correspond to the limitation of virtually inserting a load at a point. The point at which a buffer should

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be inserted is determined(col. 5,lines 16-20) is determined using the results. The wiring information is changed according to this result(col. 8, lines 10-16). Timing characteristics are included in the calculation(col. 2,lines 1-10). The delay is calculated (col. 3,lines 50-55). Determining where the buffer is inserted according to the results of these calculations(col. 6, ines 40-45).

Kong is silent with respect to the limitation of "changing the driving cell to a cell having the calculated drive capability" and with respect to other details of the calculations of the dependent claims especially the limitation "virtually inserting a load...".

Tomita discloses that in the simulation of logic devices the determination of the loads to be placed before branching points or nodes is carried out by the insertion of virtual loads(col. 2, lines 44-53; col. 3, lines 18-30; col. 5, lines 17-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention that Kong encompasses the limitation "changing the driving cell to a cell having the calculated drive capability" because Kong discloses that the router selects the loads routed through the buffer(col. 6,lines 40-50) and it would have been obvious to one of ordinary skill in the art at the time of the invention that the load chosen would be that required by the results of the calculations. It would have been obvious to one of ordinary skill in the art at the time of the invention to have carried out the calculations of the dependent claims such as determining the routes with the tightest time constraints because these are optimization steps which would be desirable in the optimization of the layout which one of ordinary skill in the art would be able to determine. It would

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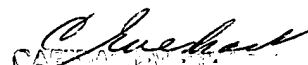
have been obvious to one of ordinary skill in the art at the time of the invention to have combined the steps taught by Tomita with the process taught by Kong because the step of simulating the system in order to optimize the layout involves the step taught by Tomita.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 571-272-1892. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Everhart
2-27-2006


CARIDAD M. EVERHART
PRIMARY EXAMINER